

Application Serial No. 10/576,579
Reply to office action of June 6, 2007

PATENT
Docket: CU-4794

REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-4 are pending before this amendment (claims 5-9 are withdrawn due to the examiner's earlier restriction requirement). By the present amendment, claims 1-2 are amended. No new matter has been added.

In the office action (page 2), claim 2 stands rejected under 35 U.S.C. § 112, ¶2 as being indefinite.

The applicants respectfully disagree. Claim 2 further limits claim 1 in that claim 2 is restricted to substrates that are made of **silicon**. The applicants amended claim 2 to clarify this, and withdrawal of the rejection is respectfully requested.

In the office action (page 2), claims 1-4 stand rejected under 35 U.S.C. § 102(e) as being anticipated by 0308042 (Kim). The "et al." suffix is omitted in a reference name.

The applicants respectfully disagree as Kim is not a valid prior art reference citable against the presently claimed invention under either §102(e) or §102(a) or §102(b).

First, Kim is not a U.S. patent reference; therefore, Kim cannot qualify as a valid prior art reference under §102(e).

Second, the examiner is respectfully reminded of MPEP §1893.03(b) as follows:

1893.03(b) The Filing Date of a U.S. National Stage Application [R-5]

An international application designating the U.S. has two stages (international and national) with the filing date being the same in both stages. Often the date of entry into the national stage is confused with the

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filing date. It should be borne in mind that **the filing date of the international stage application is also the filing date for the national stage application.** Specifically, 35 U.S.C. 363 provides that

An international application designating the United States shall have the effect, from its international filing date under Article 11 of the treaty, of a national application for patent regularly filed in the Patent and Trademark Office except as otherwise provided in section 102(e) of this title.

Similarly, PCT Article 11(3) provides that

...an international filing date shall have the effect of a regular national application in each designated State as of the international filing date, which date shall be considered to be the actual filing date in each designated State.

Further, MPEP §706.02(V) titled DETERMINING THE EFFECTIVE FILING OF THE APPLICATION also point to §1893.03(b) for determining the effective filing date of a U.S. national stage application stemming from an earlier filed PCT application under 35 U.S.C. 371.

Therefore, the filing date of the international application (**April 4, 2004**) is also the filing date of the present U.S. national stage application. As best understood, it appears the examiner has erred by treating the "371 date" of April 20, 2006 as though the filing date of the present application.

Then, the cited Kim reference is not a valid prior art reference under §102(b) since its publication date of August 2, 2003 is not more than 1 year from April 4, 2004 filing date of the present application.

Further, the cited Kim reference is not a valid prior art reference under §102(a), because the four authors of the Kim reference (Hyun-Tak Kim, B.G. Chae, D.H. Youn, S.L. Maeng, K.Y. Kang) are the very inventors of the present application (Doo Hyeb

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Youn, Hyun Tak Kim, Byung Gyu Chae, Kwang Yong Kang, Sung Lyul Maeng). That is, the Kim reference is not authored by "another" persons under the meaning of §102(a).

The examiner suggests filing a declaration under 37 CFR 1.132 to show that the Kim reference is a publication of the applicants' own invention; however, the applicants respectfully submit that such an declaration is not necessary in the present case as the authorship of Kim and the inventorship of the present application clearly match. MPEP §706.10 provides examples of when an 1.132 declaration can be filed in situations where the authorship of a publication is ambiguous or when there is/are additionally named authors in the publication; however, this is not the case with the Kim reference.

Accordingly, withdrawal of the present rejection over Kim reference is respectfully requested as Kim cannot be cited against the present application under 102(a), (b), or (e).

In the office action (page 4), claims 1-2 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent App. Publ. No. 2004/0069991 (Dunn).

The examiner's attention is respectfully directed to the following limitation of the amended independent claim 1 that requires the --gate electrode **formed directly** on the substrate--.

The applicants respectfully submit that Dunn does not teach the above-emphasized limitation of independent claim 1, as amended. More specifically, Dunn does not teach a gate electrode formed directly on the substrate. Instead, Dunn teaches a substrate (202) overlain with an amorphous interface (204), which is then overlain with a buffer (206). Directly on top of the buffer (206), a source (210) and a

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drain (208) are affixed to the buffer (206). A channel (214) is mounted onto a remaining exposed surface (215) of the buffer (206). A gate insulator (212) is then deposited over the channel (214), the source (210), and the drain (208). Finally, Dunn teaches a gate electrode (220) mounted directly onto the gate insulator (210).

In summary, Dunn teaches a gate electrode (220) / gate insulator (212) / channel (214) / buffer (206) / amorphous interface (204) / substrate (202) multi sandwiched type of structure to eventually interface the gate electrode (202) with the substrate (202) of Dunn. In contrast, the presently claimed invention requires a substrate (10) **directly on** the gate electrode (20).

Further, claims 1 and 4 have been amended to recite an abrupt metal-insulator-transition channel layer—, for which the support is found at least in the specification paragraphs [25] at pages 4-5 and [0040]-[0041] at page 7. This amended limitation is **not** taught by Dunn (or taught or suggested by the Dunn and Gurney combination) as Dunn and Gurney disclose **continuous** metal-insulator-transition, which is not abrupt.

The applicants therefore respectfully submit that the independent claim 1, as amended, is in allowable form and respectfully request withdrawal of this anticipatory rejection to independent claim 1.

In the office action (page 5), claims 3-4 stand rejected under 35 U.S.C. § 103(a) as being obvious over Dunn in view of U.S. Patent No. 6,653,704 (Gurney).

As to claims 3-4, the applicants respectfully submit that these claims are allowable at least since they depend from claim 1, which is now considered to be in condition for allowance for the reasons above.

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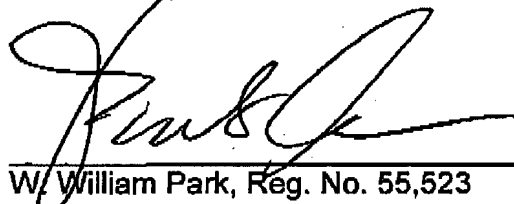
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For the reasons set forth above, the applicants respectfully submit that claims 1-4 pending in this application are in condition for allowance over the cited references. Accordingly, the applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter.

When issuance of a Notice of Allowance is proper in the next action, the examiner is authorized to cancel the withdrawn claims 5-9, for which the applicants reserve the right to file a divisional application.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,



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